



**TESTIMONY OF MARY DENISE DOWD, MD, FAAP
ON BEHALF OF THE AMERICAN ACADEMY OF PEDIATRICS**

**RESOURCES SUBCOMMITTEES ON FORESTS AND FOREST
HEALTH AND NATIONAL PARKS
HEARING ON MOTORIZED RECREATIONAL USE
ON PUBLIC LANDS**

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Department of Federal Affairs
The Homer Building
601 Thirteenth Street, N.W.
Suite 400 North
Washington, D.C. 20005
202-347-8600 / 800-336-5475 / Fax 202-393-6137

I appreciate this opportunity to present testimony on behalf of the American Academy of Pediatrics (AAP) before the Resources Subcommittees on National Parks and Forests and Forest Health regarding off-road motorized recreation on public lands. The American Academy of Pediatrics is a non-profit professional organization of 60,000 primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists dedicated to the health, safety, and wellbeing of infants, children, adolescents, and young adults. I am proud to serve as one of the nine members of the Academy's Committee on Injury, Violence, and Poison Prevention, which oversees the Academy's policy regarding transportation safety.

As the Resources Committee examines the use of off-road vehicles on public lands, the American Academy of Pediatrics urges you to consider not only recreational and environmental issues, but also health and safety issues for our children. All-terrain vehicles (ATVs), minibikes, personal watercraft (PWC), snowmobiles, and other off-road vehicles pose unique dangers to children who ride or operate them.¹ In fact, from the perspective of injury prevention, this situation creates the perfect recipe for tragedy due to the confluence of multiple high risk factors:

- Person Factors: Children lack the physical and developmental maturity to operate an off-road vehicle safely, especially in terms of judgement.
- Environment Factors: Public lands are often difficult to access for rescue crews due to distance and challenging terrain.
- "Agent" Factors: ATVs, snowmobiles and other off-road vehicles allow high rates of speed and completely expose the driver. Some, like ATVs, have a tendency to roll if not used properly. PWC operation is different from other motorized vehicles and can confuse operators, especially in crisis circumstances.

ALL-TERRAIN VEHICLES

Allow me to share with you the statistics regarding children and ATVs:

- Between 1982 and 2003, over 1,800 children were killed in ATV crashes. In 2003 alone, 111 children perished due to injuries sustained when riding an ATV.²
- An estimated 38,600 children were treated in emergency departments for ATV-related injuries in 2003. These injuries have increased every year since 1995 and now equal the

¹ Committee on Injury and Poison Prevention. All-Terrain Vehicle Injury Prevention: Two-, Three-, and Four-Wheeled Unlicensed Motor Vehicles. *Pediatrics*, 2000;105 (6):1352-1354.

near-record injury rates of 1987, when unstable three-wheeled ATVs were still in major production.³

- Injuries sustained by children riding an adult-sized ATV are often very serious, including severe brain, spinal, abdominal, and complicated orthopedic injuries. ATV riding involves almost twice the risk of injury serious enough to require hospitalization than any other activity studied. This is true even for activities generally considered to be high risk, including football (62% higher risk for ATV riding), snowboarding (110% higher risk for ATV riding) and paintball (320% higher risk for ATV riding).⁴
- Children lack the strength, coordination, and judgement to operate ATVs safely. In a Consumer Product Safety Commission (CPSC) study, the primary causes of children's deaths on an ATV were overturning, collision with a stationary object, and other collisions.⁵ Each of these implies the inability to control the vehicle properly.

I can also speak to the dangers of ATVs from my personal clinical experience. I am an emergency room physician and chief of injury prevention at Children's Mercy Hospital in Kansas City, Missouri. As the region's only pediatric trauma center, we receive and treat a large number of injured children from urban, suburban, and rural areas. My years of ER experience have taught me what to expect upon hearing the report of an injured child from the incoming ambulance or flight crew. Like the rest of my colleagues, I know when the crew tells us, "12-year-old in an ATV accident," it is highly likely that our team will soon be treating a multiply traumatized child who is severely injured. With ATV injuries, experience has taught us to expect the worst. For 2005, my institution is on track to treat a record number of ATV injuries among children; to date, we have had 33 children severely injured in ATV crashes.

² Consumer Product Safety Commission, *2003 Annual Report of ATV Deaths and Injuries*, January 2005, Table 3.

³ Consumer Product Safety Commission, *2003 Annual Report of ATV Deaths and Injuries*, January 2005, Table 5.

⁴ Consumer Product Safety Commission, Briefing Package on Petition No. CP-02-4/HP-02-1, "Request to Ban All-Terrain Vehicles Sold for Use by Children under 16 Years Old," February 2005, p.158.

⁵ Consumer Product Safety Commission, Briefing Package on Petition No. CP-02-4/HP-02-1, "Request to Ban All-Terrain Vehicles Sold for Use by Children under 16 Years Old," February 2005, p.110.

For instance, over the July 4 weekend, an 8-year-old driving an ATV crashed into another ATV. He sustained severe brain and facial injuries when his head was impaled on the handlebar of the second vehicle. He also broke one leg. Upon admission to our ER, the boy was unconscious and unresponsive. A metal bar -- part of the ATV brake handle -- protruded from the left side of his face, near his cheekbone, with brain extruding from the wound. Bone fragments were embedded in the end of the bar. One entire side of his face was disfigured with severe lacerations. A CT scan of his head showed extensive cerebral swelling and bruising with multiple broken blood vessels bleeding into his brain. At the time of this writing, this child is on life support in our intensive care unit. If he survives, his family can expect that he will likely have profound lifelong brain damage.

Mr. Chairman, if an infectious disease caused this level of death and disability, the federal government would spend millions of dollars toward studying, curing and ultimately preventing it. In the case of ATVs, however, the government has done virtually nothing over the past twenty years.

The primary federal regulatory power regarding off-road vehicles is vested in the CPSC. Over the past two decades, the CPSC has engaged in an uneven and sometimes inconsistent pattern of regulation of ATVs. ATVs first began to be widely adopted as both utility and recreational vehicles around 1980. Accordingly, ATV deaths rose from 29 in 1982 to 299 in 1986 – an increase of 930% in just four years. After pressure from the American Academy of Pediatrics and other concerned groups, the CPSC initiated negotiations with ATV manufacturers that resulted in a consent decree in 1987. The consent decree included a number of very modest measures:

- An end to the sale of unstable three-wheeled ATVs (which manufacturers were already phasing out);
- Age recommendations related to engine size in ATV marketing, which dealers would convey to consumers;
- Labels to warn purchasers that children under 16 should not ride adult-sized ATVs; and
- Free driver training and public awareness campaigns by ATV sellers.

These measures fell far short of a ban on ATV use by children, which the American Academy of Pediatrics and its partners had urged. As ATVs grew in popularity in the following years, death and injury rates also continued to rise unabated.

The Academy and its partners engaged in repeated efforts throughout the 1990s to educate the nation about the hazards of ATVs for children and to urge the courts and the CPSC to adopt stricter guidelines. Despite these initiatives, the consent decree expired without further action in 1998. The ATV manufacturers agreed to continue abiding by consent decree provisions under Voluntary Action Plans, which were unenforceable and carried no penalties for noncompliance.

Over the past five years (1999-2003), an average of almost 450 people have died each year of ATV-related injuries. An average of 105,000 per year people have been injured during that same time. Of these, an average of 115 deaths and 34,000 injuries each year have been among children under the age of 16.⁶

Despite the alarming increases in ATV deaths and injuries, government regulation continues to be all but absent. No ongoing review has ever been undertaken regarding possible additional or revised regulations, in spite of changes in the patterns of ATV design and use. In 2000, the Academy's Committee on Injury and Poison Prevention (on which I serve) reviewed the evidence regarding children and ATVs and reaffirmed its long-standing recommendation that no child under the age of 16 should operate or ride an ATV.⁷

Due to this lack of activity at the appropriate regulatory agencies, in 2003 the American Academy of Pediatrics joined a number of other groups, including the American College of Emergency Physicians and Consumer Federation of America, to petition the CPSC once again to ban the use of

⁶ Consumer Product Safety Commission, *2003 Annual Report of ATV Deaths and Injuries*, January 2005, Tables 3 and 5.

⁷ Committee on Injury and Poison Prevention. All-Terrain Vehicle Injury Prevention: Two-, Three-, and Four-Wheeled Unlicensed Motor Vehicles. *Pediatrics*, 2000;105 (6):1352-1354.

ATVs by children under the age of 16. This petition underwent two years of review at the agency. In February of this year, the CPSC issued a briefing package recommending that the petition be denied. This recommendation was based primarily on two lines of reasoning: first, that a sales ban would not necessarily influence riding behavior; and second, that major distributors of ATVs already ban the sale of full-sized ATVs for use by children. The American Academy of Pediatrics considers both of these reasons to be specious. The sale of numerous products to children is banned, regardless of how or whether children may obtain or use those products otherwise (fireworks, lighters, and cigarettes are among the most obvious examples). Furthermore, the ban on the sale of ATVs for use by children is voluntary, and the CPSC's own surveys show that dealer compliance is inconsistent at best.⁸

The CPSC commissioners have not yet voted upon the petition to ban the sale of adult-sized ATVs for use by children under the age of 16. On March 22 of this year, my colleague, Mary Aitken, MD, FAAP, testified before the CPSC to urge the commissioners to approve this ban. The American Academy of Pediatrics continues to support this ban fully and works toward its adoption.

Like the CPSC, the Resources Committee has the power to reduce ATV-related deaths and injuries among our nation's children. If the federal government adopted limitations on ATV use by children on public lands, this would serve as both a powerful message and a model for states and localities. The attention and publicity generated would educate parents, who are often unaware of the safety risks of these vehicles. Moreover, this committee could have a significant impact on a key issue regarding ATV injuries. When an ATV crash occurs on public land in a remote, unpaved, or inaccessible area, precious hours can be wasted in locating, reaching, and transporting the victim to medical care. Trauma surgeons refer to the "golden hour" after injury as the critical window for initiating medical treatment. By placing meaningful restrictions on the use of ATVs by children on public lands, this committee could reduce the likelihood that children would die of preventable and treatable injuries.

⁸ Consumer Product Safety Commission, Briefing Package on Petition No. CP-02-4/HP-02-1, "Request to Ban All-

OTHER OFF-ROAD VEHICLES

A number of other off-road vehicles are used by children on public lands and in other settings. They include:

Two-wheeled motorized off-road cycles. Minibikes have motorized bicycle-style frames, weigh less than 45kg, and have engines with less than 4 horsepower. Minicycles are more sophisticated and powerful; they have suspension systems and transmissions and resemble miniature motorcycles.

Trailbikes or trailcycles are larger than minicycles and have characteristics that make them suitable for rough terrain. They are generally approved for off-road use only. Injuries related to these vehicles typically result from loss of control after striking rocks, bumps, or holes, or from on-road use. From 1994 to 1996, there were about 40,000 injuries related to 2-wheeled motorized off-road cycles treated in emergency departments annually, and 26% of injuries were to children younger than 15 years.

Snowmobiles. Snowmobiles have increased in popularity, size, and speed in recent years. In 1997 and 1998, about 10,000 snowmobile injuries were treated in emergency departments each year. Ten percent of the injuries were in children younger than 15 years, and 25% were in 15- to 24-year-olds. Head injuries are the leading cause of injury and death, and most deaths and serious injuries result from striking another vehicle or a fixed object such as a tree, cable, or wire.⁹

Personal watercraft. PWC are small boats that can accommodate a single operator standing up or sitting. Some models allow for one to two passengers. PWC may reach speeds of 60mph or more. There are fewer data about PWC injuries than for other off-road vehicles, but a national study estimated that nearly 12,000 people were treated in emergency departments for PWC injuries in 1995. Estimates vary regarding the proportion of the injured who are children and adolescents—one study showed that 7% of injuries were to children 14 years and younger and 38% were to 15- to 24-year-olds,¹⁰ and another showed that 27% of the injured were younger than 17 years and 61% were

Terrain Vehicles Sold for Use by Children under 16 Years Old,” February 2005, p 15.

⁹ Committee on Injury and Poison Prevention. Snowmobiling Hazards. *Pediatrics*, 2000;106 (5):1142-1144.

¹⁰ Branche, CM, Conn JM, Annest JL. Personal watercraft-related injuries: a growing public health concern. *JAMA*, 1997;278:663-665.

25 years and younger.¹¹ In one California report, children younger than 18 years accounted for 14% of all boating incidents; of those incidents involving children, 93% involved PWC rather than other types of watercraft. Overall, PWC in California represented only 16% of registered vessels, but accounted for 55% of boating injuries.¹²

Personal watercraft present special challenges due to the fact that they are operated differently from most other vehicles. A PWC may be maneuvered only when the throttle is open. Contrary to experience in every other motor vehicle, an obstruction is not avoided by slowing and turning but by maintaining or increasing speed and turning to avoid the hazard. In addition, as with any other watercraft, there is no ability to brake. Stopping is achieved only by cutting the throttle and by coasting; while coasting, no steering is possible

The growing popularity of all forms of motorized recreational vehicles raises serious questions about safety, particularly on public lands. The vast majority of concerns elucidated about ATVs also apply to these other off-road vehicles (ORVs). It is difficult to overemphasize the risk involved in allowing immature children to operate these dangerous machines in remote, unsupervised, and potentially hazardous circumstances.

POLICY RECOMMENDATIONS

The American Academy of Pediatrics has issued specific recommendations for policymakers regarding children and off-road motorized vehicles:

Children under 16 should not operate ORVs. An ATV, PWC, or snowmobile can weigh in excess of 500 pounds and travel at speeds of over 60 miles per hour. Children do not possess the physical strength, coordination, or judgment necessary to pilot these vehicles safely.¹³ When a child crashes on one of these large machines, it often rolls over them or traps them beneath it. The result is

¹¹ Hamman BL, Miller FB, Fallat ME, Richardson JD. Injuries resulting from motorized personal watercraft. *J Pediatr Surg.* 1993;28:920-922.

¹² Shuit DP. Boating injuries on the rise. *LA Times*, May 12, 1997.

¹³ Consumer Product Safety Commission, Briefing Package on Petition No. CP-02-4/HP-02-1, "Request to Ban All-Terrain Vehicles Sold for Use by Children under 16 Years Old," February 2005, p.17.

devastating injuries, including crushed internal organs and multiple broken bones. Even on PWC, the leading cause of death is blunt trauma, not drowning, and head injuries are common.

A driver's license should be required to operate an ORV on public lands. The federal government does not allow children to drive cars in national forests or parks. Yet an unlicensed child is permitted to drive an ATV, PWC, snowmobile, or minibike at high speeds, without a helmet, on unpaved surfaces or unknown waters in those same areas. This situation defies all logic. The safe use of ATVs requires the same or greater skill, judgment, and experience as needed to operate an automobile. A driver's license should be required to operate any motorized vehicle on public lands.

Alcohol use by operators of ORVs should be prohibited, with zero tolerance among 16- to 20-year-old operators. Just as alcohol- or drug-impaired operation of automobiles threatens the lives of drivers, passengers, and bystanders and is prohibited, operation of any motorized vehicle under the influence of alcohol or drugs should be forbidden. Young drivers under the influence of alcohol or drugs are particularly dangerous because of their relative inexperience and poorer judgment. Alcohol use by those under the age of 21 is already banned by federal and state laws, and zero tolerance policies for underage ORV operators on public lands would strengthen the prohibition and send a strong message to parents and adolescents.

ORV use should be banned on paved roads in public lands. All-terrain vehicles, snowmobiles, and other ORVs lack the features necessary to operate safely on roads and highways. Most have few or no lights, mirrors, signals or safety features. A significant number of crashes occur on paved roads where cars or trucks cannot see the ORV, or where ORV operators make unexpected maneuvers. In the CPSC survey on ATV crashes mentioned earlier, the highest number of fatalities occurred on paved surfaces.¹⁴ Use of ORVs should be allowed only on designated, well-maintained trails.

¹⁴ Consumer Product Safety Commission, Briefing Package on Petition No. CP-02-4/HP-02-1, "Request to Ban All-Terrain Vehicles Sold for Use by Children under 16 Years Old," February 2005, p.108.

Appropriate protective gear should be required to operate an ORV on public lands. Research regarding motorcycles and bicycles tells us that helmets save lives and that helmet laws result in greater helmet use.^{15,16,17} The federal government should take a leadership role and require operators of land-based ORVs on public lands to wear a helmet. In the case of PWC, operators and passengers should be required to wear a U.S. Coast Guard-approved personal flotation device. Additional research is needed to determine whether and what type of additional protective gear, including helmets, improves PWC riders' safety.¹⁸

Carrying passengers on an ATV should be prohibited. The vast majority of ATVs are not designed to carry passengers. An ATV's large seat is meant to allow a rider to shift his or her weight and maneuver adequately. Children can easily be thrown from these vehicles at high speeds. The Academy is even aware of cases where parents drive ATVs with children strapped onto the rear in a car seat, in the tragically mistaken perception that this is somehow safe. In a recent CPSC analysis of 184 child deaths involving ATVs, the agency concluded that, "CPSC has long recommended against the carrying of passengers on ATVs, and yet 24 percent of the deceased children were riding as passengers, and 45 percent of the fatalities occurred in multiple rider situations. Certainly, if CPSC's recommendations had been followed, the deaths of at least 45 child passengers would not have occurred."¹⁹

ORVs should not be operated before sunrise or after sunset. Vehicles such as ATVs, PWC, and snowmobiles are challenging to operate safely even under ideal conditions. Darkness adds an unacceptable degree of additional risk, due to both unseen hazards and the difficulty of being seen by other vehicles. The use of ORVs in low light or darkness should be prohibited.

¹⁵ Kraus JF, Peek C, McArthur DL, Williams A. The effect of the 1992 California motorcycle helmet use law on motorcycle crash fatalities and injuries. *JAMA*. 1994;272:1506-1511.

¹⁶ Watson GS, Zador PH, Wilks A. Helmet use, helmet laws, and motorcyclist fatalities. *Am J Public Health*. 1981;71:297-300.

¹⁷ Committee on Injury and Poison Prevention. Bike Helmets. *Pediatrics*, 2001;108(4) 1030-32.

¹⁸ Committee on Injury and Poison Prevention. Personal Watercraft Use by Children and Adolescents. *Pediatrics*, 2000;105(2):452-453.

¹⁹ Consumer Product Safety Commission, Briefing Package on Petition No. CP-02-4/HP-02-1, "Request to Ban All-Terrain Vehicles Sold for Use by Children under 16 Years Old," February 2005, p.110.

Manufacturers should redesign ORVs to improve safety. Some of the hazards arising from ORVs can be attributed the design of the products themselves. Various equipment modifications have been suggested. All proposed safety modifications should be evaluated before and after implementation.

- *ATVs:* Seat belts should be standard, and ATVs should have a roll bar to prevent the driver from being crushed by the weight of the vehicle in the event of a rollover. Headlights that automatically turn on when the engine is started should be installed on all ATVs to improve visibility by other vehicles. Speed governors (devices that limit maximum speed) should be installed on ATVs used by inexperienced operators (such as teenagers or renters). Efforts should be made to design ATVs so that they cannot carry passengers.
- *Two-wheeled motorized off-road cycles:* Engine covers could reduce burn injuries resulting from body contact with the engine and exhaust system. A sturdy leg guard could avoid injuries from sideswiping solid objects or being pinned to the ground.
- *Snowmobiles:* Snowmobile manufacturers should improve vehicle braking, steering, and stability. Redesign of seats and handlebars could increase safety and reduce hand-arm vibration to minimize numbness resulting from a combination of vibration and cold as well as white finger syndrome, which involves a permanent loss of sensation and dexterity. Sound levels should be reduced to lessen hearing loss from prolonged exposure to excess engine noise. Headlight luminance should be improved to provide greater visibility. Global Positioning System devices should be added to all snowmobiles to facilitate location of lost or injured riders.

CONCLUSION

In conclusion, the American Academy of Pediatrics urges you to support meaningful restrictions on children riding or operating ATVs and other off-road vehicles on public lands. Clearly, ORVs pose

a significant hazard to children who ride them. This fact is indisputable. The cost to society is also high, not only in regard to loss of life and health but in actual dollars. In March, the journal *Pediatrics* published a study in which my colleagues estimated that total hospital charges for children's ATV injuries over a two-year period exceeded \$74 million.²⁰ If no further action occurs this year, we can expect over 100 children to die and over 35,000 to be treated in the emergency room again next year due to ATV-related incidents alone.

The present state of affairs has been entirely ineffective in keeping children safe. I hope this committee will take a leadership role on this issue and ensure the safety of children on public lands by supporting the common-sense measures recommended by the American Academy of Pediatrics. Again, I thank you for the opportunity to testify on the issue of motorized recreation on public lands.

²⁰ Killingsworth, Jeffrey et.al., "National Hospitalization Impact of Pediatric All-Terrain Vehicle Injuries," *Pediatrics*, 2005;115(3):e316-e321.